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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,540	02/23/2004	Richard K. Staub	163.1750US01	7749

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EXAMINER
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CHAUDHRY, SAEED T

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/784,540	STAUB ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Saeed T. Chaudhry	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/30/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### **Election/Restriction**

Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I, Claims 1-24, drawn to a method for treating CIP equipment by treating with liquid and gaseous phase composition, classified in Class 134, subclass 26.

Group II, Claims 25-26, drawn to a system having a treatment tank and a forced air source, classified in Class 134, subclass 94.1.

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (M.P.E.P. § 806.05(e)). In this case the process as claimed can be practiced by another materially different apparatus such as without a forced air source or the apparatus as claimed can be used to practice another and materially different process such as mixing different fluids.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, have acquired a separate status in the art because of their recognized divergent subject matter, the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Dennis R. Daley on April 14, 2006 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-24. Affirmation of this election must be made by applicant in responding to this Office action. Claims 25-26 are withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected invention.

### **Joint Inventors**

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the

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currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (c) he has abandoned the invention.
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
- (f) he did not himself invent the subject matter sought to be patented.
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

**Claims 1-4 and 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by**

**Buck.**

Buck (6,089,242) disclose a method for treating clean-in-place (CIP) equipment by introducing a multiple phase composition comprising a liquid phase and a gaseous phase and rinsing the equipment with a multiple phase rinsing composition comprising a rinsing liquid phase and a rinsing gaseous phase.

A dairy pipeline wash monitoring system data processor can be programmed to: circulate water and an optional cleaning chemical through the dairy pipeline system; activate an air

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injector to enhance water and optional cleaning chemical velocity through the dairy pipeline system; drain the water and optional cleaning chemical from the dairy pipeline system; activate a second pump or valve to fill the wash vessel with water and optional cleaning chemical and inject the wash chemical into the wash vessel or a manifold and circulate the wash chemical and water through the dairy pipeline system; activate an air injector to enhance water and wash chemical velocity through the dairy pipeline system; drain the wash chemical and water from the dairy pipeline system; fill the wash vessel with water; optionally inject a rinse chemical into the wash vessel or manifold to mix with the water and circulate the rinse chemical and water through the dairy pipeline system, activate an air injector to enhance water and rinse chemical velocity through the dairy pipeline system, and drain the rinse chemical and water from the dairy pipeline system (see col. 3, lines 48-67).

As with the milk pipeline 60, the above system configuration can also be used to clean bulk milk storage tanks 170 (FIG. 4) utilizing the same controller 10 and chemical dispenser 20. In cleaning bulk tanks 170, the wash solutions are diverted to the bulk tank clean-in-place system 172 through manifold 48 (FIG. 2). The typical bulk tank clean-in-place system utilizes a transfer pump 110 that pumps water and chemical solution to an upper spray device 150 that distributes the solution to the inner tank walls. The agitator 140 turns during wash to facilitate better cleaning. After adequate cleaning time has elapsed, the drain valve 130 (FIG. 4) opens (see col. 8, lines 24-44).

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

**Claims 13-16, 20-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Buck in view of Kenowski et al.**

Buck was discussed supra. However, the reference fails to disclose a sanitizing step for treating clean-in-place (CIP) equipment.

In an analogous art Kenowski et al (6,767,408) disclose a method for cleaning a clean-in-place (CIP) system.

Food processing equipment, such as that found in dairies, breweries, and carbonated beverage plants, typically includes tanks, pumps, valves and fluid piping. This food processing equipment often needs to be cleaned between each lot of product processed through the equipment (see col. 1, lines 22-24).

In a following "acid wash" step, the acid supply valve 54 remains open, the acid return valve 52 is opened, and the drain valve 72 is closed such that acidic cleaning solution is circulated and recirculated through the clean-in-place system 10 and the apparatus 14. Various compositions are suitable as the acidic cleaning solution, and typically these acidic solutions react with basic materials (e.g., minerals) in the apparatus 14 to produce a salt by way of an acid-base reaction. The consumption of the acidic cleaning solution in such acid-base reactions

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causes a drop in the acidity of the acidic cleaning solution. To compensate for the drop in acidity, additional acidic cleaning solution may be added to the acid tank 50 by the acid pump 92. Often, conductivity or pH sensors are used to monitor the acidity of the acidic cleaning solution in the acid tank 50, and feedback from the sensors to the PLC signals the PLC to initiate delivery of acidic cleaning solution from the acid pump 92 to the acid tank 50. Such delivery may be during or after the clean-in-place process.

In a next step called "acid rinse push", the rinse supply valve 64 is opened, the acid return valve 52 remains open, and the acid supply valve 54 is closed, thereby pushing the acidic cleaning solution in the clean-in-place system 10 and the apparatus 14 into the acid tank 50. In a following step called "acid rinse", the rinse supply valve 64 remains open, the acid return valve 52 is closed, and the drain valve 72 is opened, thereby sending rinse water (and suspended or dissolved solids) to the drain 70.

In a following step called "sanitize", the rinse supply valve 64 remains open, the drain valve 72 remains open, and the PLC initiates delivery of sanitizer from the sanitizer pump 84 by way of the sanitizer conduit 81 to the fluid supply conduit 16. The rinse water including the injected sanitizer is circulated through the clean-in-place system 10 and the apparatus 14, and is sent to drain 70. In a next step called "sanitizer push", sanitizer injected is stopped, the rinse supply valve 64 remains open and the drain valve 72 remains open thereby pushing the remaining sanitizer/water mixture to drain 70. In a following step called "air blow", the rinse supply valve 64 is closed, the drain valve 72 remains open, and the PLC initiates delivery of air from the air source 80 to the air conduit 81 and to the fluid supply conduit 16. The air

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pushes further fluids remaining in the clean-in-place system 10 and the apparatus 14 to drain 70.

The clean-in-place process is then complete (see col. 6, line 38 to col. 7, line 13).

It would have been obvious at the time applicant invented the claimed process to incorporate the cited steps of sanitizing the equipment after washing and rinsing as disclosed by Kenowski et al into the process of Buck. This is because it is well known in the art of food process equipment industries to clean, rinse and sanitize the food processing equipment and one of ordinary skill in the art would include air into the sanitizing liquid phase because Buck discloses that injecting air enhance the water and rinse chemical velocity. Further, Buck discloses that the liquid chemicals are usually dispensed in the sequence detergent/acid/sanitizer each mixed with a volume of water and circulated throughout the system. Therefore, one of ordinary skill in the art would use a separate step of sanitizing the equipment after rinsing the equipment as disclosed by the Kenowski et al.

The artisan would have been motivated to make the instant combination in an attempt to enhance the sanitizing velocity and efficiency.

**Claims 5-7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buck as applied to claim 1 above, and further in view of Franks et al.**

Buck was discussed supra. However, the reference fails to disclose a pharmaceutical, chemical or water purification plant or rinsing with a second rinsing liquid.

Frank et al (6,161,558) disclose a method of cleaning clean-in-place equipment by pre rinse, wash, rinse and a post rinse steps.

The CIP cleaning cycle would normally begin with a pre-rinse cycle wherein relatively low grade water would be pumped through the batch processing system for the purpose of



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removing "loose" soil in the system and carrying the soil to drain. Typically, an alkaline and/or acid wash would then be recirculated through the batch processing systems at an elevated temperature. The actual choice between acid or alkaline or both would be governed by the type of operation and soil to be removed. This wash would chemically react with the soiled surfaces of the batch processing system to further remove soil. A third step would again rinse the system to drain with water, prior to an optional fourth step wherein an acid rinse would be recirculated through the batch processing system. The acid rinse would neutralize and remove residual alkaline cleaner and remove any mineral deposits left by the water. Finally, a post-rinse cycle would be performed, typically using a high grade of water or recirculated sanitizing rinse. The post-rinse cycle would typically be performed at an elevated temperature to permit fast drying of the equipment. Such CIP systems are well known in the art (see col. 1, lines 46-66).

It would have been obvious at the time applicant invented the claimed process to include a second rinse after a first rinse as disclosed by Franks et al into the process of Buck to enhance the cleaning efficiency. One of ordinary skill in the art would use air to agitate the second rinse since it is suggest by Buck that the air agitation increase the cleaning efficiency. Furthermore, one of ordinary skill in the art would use these process steps in water purification plant to enhance the cleaning efficiency.

**Claims 17-19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buck in view of Kenowski et al, as applied to claim 13 above, and further in view of Franks et al.**

Buck was discussed supra. However, the reference fails to disclose a pharmaceutical, chemical or water purification plant or rinsing with a second rinsing liquid.

Frank et al (6,161,558) disclose a method of cleaning clean-in-place equipment by pre rinse, wash, rinse and a post rinse steps.

The CIP cleaning cycle would normally begin with a pre-rinse cycle wherein relatively low grade water would be pumped through the batch processing system for the purpose of removing "loose" soil in the system and carrying the soil to drain. Typically, an alkaline and/or acid wash would then be recirculated through the batch processing systems at an elevated temperature. The actual choice between acid or alkaline or both would be governed by the type of operation and soil to be removed. This wash would chemically react with the soiled surfaces of the batch processing system to further remove soil. A third step would again rinse the system to drain with water, prior to an optional fourth step wherein an acid rinse would be recirculated through the batch processing system. The acid rinse would neutralize and remove residual alkaline cleaner and remove any mineral deposits left by the water. Finally, a post-rinse cycle would be performed, typically using a high grade of water or recirculated sanitizing rinse. The post-rinse cycle would typically be performed at an elevated temperature to permit fast drying of the equipment. Such CIP systems are well known in the art (see col. 1, lines 46-66).

It would have been obvious at the time applicant invented the claimed process to include a second rinse after a first rinse as disclosed by Franks et al into the process of Buck to enhance the cleaning efficiency. One of ordinary skill in the art would use air to agitate the second rinse since it is suggest by Buck that the air agitation increase the cleaning efficiency. Furthermore, one of ordinary skill in the art would use these process steps in water purification plant to enhance the cleaning efficiency.

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*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saeed T. Chaudhry whose telephone number is (571) 272-1298. The examiner can normally be reached on Monday-Friday from 9:30 A.M. to 4:00 P.M.*

*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Barr, can be reached on (571)-272-1414. The fax phone number for non-final is (703)-872-9306.*

*When filing a FAX in Gp 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are for entry into the file of the application. This will expedite processing of your papers.*

*Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1700.*

**Saeed T. Chaudhry**  
**Patent Examiner**



**MICHAEL BARR**  
**SUPERVISORY PATENT EXAMINER**